

REMARKS

Applicants request entry of the present amendments which conform the claims to U.S. practice. No new matter is being introduced by this Amendment as antecedent support is set forth in the original specification and in the original claims.

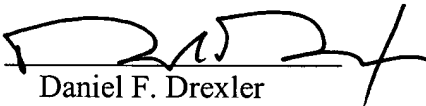
Prosecution on the merits is respectfully requested.

The Examiner is invited to contact Applicants' attorney at the below-listed telephone number regarding this Preliminary Amendment or otherwise regarding the present application.

If there are any charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130 maintained by Applicants' attorneys.

Respectfully submitted,
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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Claims 1-13 are amended herein as follows:

Please replace claims 1-13 with the following rewritten versions:

1. (Amended/Marked up) A method of etching a semiconductor device using a neutral beam comprising:

extracting an ion beam having a predetermined polarity from an ion source to accelerate the ion beam;

reflecting an accelerated ion beam by a reflector to neutralize the reflected ion beam; and

positioning a substrate to be etched in [the] a path of a neutral beam to etch a [special] material layer on the substrate with the neutral beam.

2. (Amended/Marked up) The method of claim 1, [wherein the step of neutralizing the ion beams is performed after] further comprising adjusting [the] an angle of incidence of the ion beam incident on the reflector before the reflecting.

3. (Amended/Marked up) The method of claim 2, wherein the angle of incidence of the ion beam incident on the reflector is within the range of 75 - 85° from [the]a vertical line to [the]a horizontal surface of the reflector.

4. (Amended/Marked up) The method of claim 3, [wherein the step of neutralizing the ion beam is performed after] further comprising adjusting [the] a gradient of the reflector to an incident ion beam.

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5. (Amended/Marked up) The method of claim 3, [wherein the step of neutralizing the ion beam is performed after] further comprising applying a voltage to the reflector to adjust [the] a path of an incident ion beam.

6. (Amended/Marked up) The method of claim 1, wherein the reflector is [one of] selected from the group consisting of a semiconductor substrate, a silicon dioxide substrate and a metal substrate.

7. (Amended/Marked up) An apparatus for etching a semiconductor device using a neutral beam, the apparatus comprising:
an ion source for extracting and accelerating an ion beam having a predetermined polarity;
a reflector positioned in [the] a path of the ion beam accelerated from the ion source for reflecting and neutralizing the ion beam; and
a stage for positioning a substrate to be etched in [the] a path of the neutral beam.

8. (Amended/Marked up) The apparatus of claim 7, wherein the ion source is an inductively coupled plasma source[, and a grid is formed to accelerate the ion beam at the rear of the ion source].

9. (Amended/Marked up) The apparatus of claim 7, wherein the reflector [is formed of] comprises a plurality of plates which are spaced apart from each other to reflect the ion beam.

10. (Amended/Marked up) The apparatus of claim 7, wherein the reflector [is formed of] comprises a plate which [may be tilted] is tiltable to adjust [the] an angle of incidence of an incident ion beam to [the] a horizontal surface of the plate.

11. (Amended/Marked up) The apparatus of claim 7, wherein the reflector [is formed of] comprises a plurality of cylindrical reflecting members [reflectors, which are overlapped, of which adjacent reflectors have different polarities].

12. (Amended/Marked up) The apparatus of claim 7, further comprising a position control means [wherein] for adjusting a [the] position of the stage [is adjusted] corresponding to the path of the neutral beams reflected by the reflector.

13. (Amended/Marked up) The apparatus of claim 7, wherein the reflector is [one of] selected from the group consisting of a semiconductor substrate, a silicon dioxide substrate, and a metal substrate.

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